MODIS Technical Team Meeting
Thursday, March 11, 2004
Building 33, Room E108

Vince Salomonson chaired the meeting. In attendance were Chris Justice, Bob Barnes, Bill Barnes, Jack Xiong, Dorothy Hall, Shaida Johnston, Robert Wolfe, Steve Kempler, Michael King, and Barbara Conboy, with Yolanda Harvey taking the minutes.

1.0 Upcoming Events

- MODIS Science Team Telecon, 11 AM EST
- AGU Joint Assembly, Montreal, Quebec, Canada. May 17-21, 2004. Deadline for abstracts: February 12, 2004 (mail) and February 19 (electronic, before 9 pm EST) http://www.agu.org http://www.agu.org/meetings/sm04/index.shtml
- MODIS Vegetation Workshop II, University of Montana, 17 - 19 August 2004
- AIAA Space 2004 Conference and Exhibit, San Diego, California, September 28-30 2004.
  http://www.aiaa.org/

2.0 Meeting Minutes

2.1 General Discussion

Salomonson reported that MODIS contract/procurement actions are moving ahead slowly. There are still a few decisions and actions at HQ that need to be accomplished before the Goddard procurement process can start.

2.2 Instruments

Xiong reported that both instruments are operating fine.

Bob Barnes reported that the Lunar Calibration work is coming along. Salomonson asked whether Ocean Color normalizing is progressing, and Barnes said that they're working to get good baseline corrections on BRDF and polarization for Aqua. Xiong said that on the polarization interpretations, there has been a lot of talk on orientation of the polarizer during the sensitivity measurements. He is reviewing some old documents and communicating with Jim Young (SBRS) to sort this out. SeaWiFS has always been very careful when working on polarization, which is nice, because their baselines are consistent with what others are doing. Xiong said that SeaWiFS will try two different polarization orientations in their baseline Aqua data processing. This might provide useful information based on the real product quality on the polarization direction

2.2.1 Terra MODIS – Xiong reported that a Lunar Observation maneuver was performed on March 10, 2004.

2.2.2 Aqua MODIS – Xiong reported that Aqua had a longtime plan for performing an adjustment maneuver that was supposed to occur this Monday (March 8), but has been postponed until March 31, 2004. There will not be a Lunar Observation maneuver next month for the Terra instrument due to spacecraft roll angle constraint.

2.3 DAAC

Kempler reported that the past week has been nominal; performance is going well with Terra at 1x and Aqua at 3x (including reprocessing). Salomonson asked if Kempler is working with Masuoka on the QA data distribution issue. Kempler said that 98.98% of the QA data coming out of the DAAC is going to Miami (not including data sent to MCST). This makes up approximately 15% of the DAACs distribution. MCST is getting an additional 10-12%. Because QA data distribution is required to be 10% of the total distribution, Kempler asked for guidance from the Team on how the QA distribution load should be reduced. (The main issue for the DAAC is that user demand has increased, so the DAAC needs to recover the excess distribution capacity going to MODIS QA to meet total distribution demands). Johnston said that she would summarize the available options and scenarios for the group to consider, as well as break down the types of data that are considered QA data.

2.4 SDST

Wolfe reported that Aqua Land reprocessing went really well over the past week, at almost 5x. The Aqua Land 2002 data have finished reprocessing, and 2003 have started. Forward processing is only a few days behind real time. The PDR server was down because of a hardware failure for a short period last week. Most of the data flows were reestablished within a few days, but there was a week of delay in getting the Terra forward processing data stream to NSIDC flowing. Salomonson asked how last week's workshop with Masuoka and Carnegie Mellon went. Wolfe said the workshop went well and focused on learning the technique of developing and expanding user scenarios as a way of developing and prioritizing requirements for future ESE data systems activities. It was felt that there was a need to involve for a number of stakeholders who are setting requirements, but there weren't at the workshop. Salomonson suggested going to the user-community first, getting their thoughts, and then comparing those to HQ requirements. Wolfe said that it would be valuable to make use of these scenario-based techniques at future user workshops focused on the different ESE communities.

2.5 Land

Justice reported that Steve Running is holding a Land Workshop on August 17, 18, and 19 in Missoula, Montana.

Justice reported that Team Members in the MODAPS/Land groups are starting to get requests to do more than they're currently required. Salomonson said that we need to be precise about what we can handle with current budgets.

2.6 Oceans

Salomonson reported that the Ocean Color Review Team has suggested that the near field response (NFR) might be the source of the problems between MODIS Ocean Color data and SeaWiFS data. Xiong reported that Jim Young did a two-band comparison on a preliminary level; MODIS NFR performance is better when "near," but beyond a certain point SeaWiFS NFR is better. This is ostensibly because the SeaWiFS aperture is smaller. Xiong said that he spoke with both Wayne Esaias and a SeaWiFS person and would like to know how cloud retrieval is being performed in their algorithms. Apparently this involves using Bands 13-14, and as far as impact goes, both MCST and Santa Barbara can provide additional studies to determine this. More analysis and modeling are needed still, as well as cloud data. Salomonson concluded that though this is a possible problem for

the difference between SeaWiFS and MODIS ocean color, there are other issues that have more of an impact. Xiong agreed.

2.7 Atmospheres

King reported that his group has been doing work on Ocean Bidirectional Reflectance, Sunglint, etc. One of his research associates, Charles Gatebe, submitted a paper to the Journal of the Atmospheric Sciences (CLAMS Special Issue), and King has asked him to do a brown-bag seminar next week on the paper. This manuscript can be found on the MODIS-atmosphere web site at http://modis-atmos.gsfc.nasa.gov/reference_science_king.html

King noted that he thought it was forbidden in EOSDIS to compress files, but apparently that is not true. The atmosphere group is looking now at doing automatic compression of files, and they're making sure that this doesn't affect data quality or users in the sense that data visualization and extraction tools recognize automatic zip compression in hdf and are therefore unaffected when working with the data. The compression would be by a factor of four or five. Kempler noted that the DAAC does hardware compression, and they're trying to do software compression as well. King said that this compression should be transparent to users, and will be done to Atmospheres L3 files as well as selected Level-2 files (clouds, aerosols, and possibly cloud mask). Ideally the compression and subsequent extraction should be intrinsic within HDF files so that users don't have to do anything extra to them. Currently they're experimenting with compressing a 66 MB cloud product to 16 MB. Wolfe noted that the Land group has been doing this with the fire product for a number of years. Wolfe noted that they found at least one tool that doesn't uncompress automatically (they asked the product vendor to look at changing it), so it is important to check to understand how the compression will affect the users. Kempler asked if he could talk to Rich Hucek about it, and King said yes.

3.0 Action Items

3.1 New Action Items

3.1.1 Johnston to summarize the available options and scenarios for the group to consider, as well as break down the types of data that are considered QA data.

3.2 Old Action Items

3.2.1 Harvey to check to make sure that McClain is on the right distribution lists for minutes.
Status: Closed.

3.2.2 Masuoka to ask Gene if Miami still needs a separate feed from the GDAAC, since Gene is also sending them the subsetted data.
Status: Closed.
At this Tech Team meeting it was clear that Miami can't use Gene's data pool for the subsetted data they require since it only includes Aqua products.

3.2.3 Tech Team to further discuss TRW using MODIS data for validation of the NPP/NPOESS production process.
Status: Open.

3.2.4 Kempler to bring back some proposals for how the disciplines can deal with the DAAC distribution problem.
Status: Open.